WHAT IS CLAIMED IS

1. Iron powder adapted to remediate selected media by dehalogenating halogenated hydrocarbons in the media comprising:

iron powder particles; and

an inorganic compound having an electric resistivity of about 1×10^{-2} Ω m or less on at least a portion of the surfaces of the iron powder particles.

2. The iron powder according to Claim 1, wherein the inorganic compound comprises at least one metal element selected from the group consisting of Ca, Ti, V, and Cr.

3. The iron powder according to Claim 1, wherein the inorganic compound comprises at least one compound selected from the group consisting of nitrides, oxides, sulfides, and carbides.

4. The iron powder according to Claim 1, wherein the inorganic compound is selected from the group consisting of $CaCrO_3$, TiO, TiO_2, Ti_2O_3, TiN, TiS, TiC, VO, V_2O_3, and CrO_2.

5. A method for remediating selected media contaminated with halogenated hydrocarbons comprising

contacting iron powder particles and an inorganic compound having an electric resistivity of about 1×10^{-2} Ω m or less on at least a portion of the surfaces of the iron powder particles with the halogenated hydrocarbons; and

causing dehalogenation of the halogenated hydrocarbons to thereby remediate the

media.

6. The method according to Claim 5, wherein the inorganic compound comprises at least one metal element selected from the group consisting of Ca, Ti, V, and Cr.

7. The method according to Claim 5, wherein the inorganic compound comprises at least one selected from the group consisting of nitrides, oxides, sulfides, and carbides.

8. The method according to Claim 5, wherein the media is selected from the group consisting of soil, water and gas.

9. The method according to Claim 5, wherein the halogenated hydrocarbons are selected from the group consisting of methyl chloride, dichloromethane, chloroform, carbon tetrachloride, 1,1-dichloroethane, methyl chloroform, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, 1,1-dichloroethylene, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene, trichloroethylene (TCE), tetrachloroethylene (PCE), 1,2-dichloropropane, 1,3-dichloropropene, methyl bromide, 2-bromopropane, 1,3-dibromopropane, 1,4-dibromobutane, and allyl bromide.

10. The method according to Claim 5, wherein the iron powder is added into media contaminated with the halogenated hydrocarbons.